AN INVESTIGATION INTO THE INFORMATION NEEDS, USE PATTERN AND INFORMATION SEEKING BEHAVIOR OF PG DENTAL STUDENTS IN THE IT ENVIRONMENT: A CASE STUDY OF SOUTH KANARA AND UDUPI DISTRICTS

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CONTENTS

Sl. No		Page No.
1	Introduction	1
2	Dental education in India	2
3	Dental education and services in Karnataka	2
4	Dental colleges in South Kanara and Udupi districts	3
5	Background of the study	4
6	Current status of the study	5
7	Need and significance of the study	6
8	Purpose of the study	7
9	Statement of the problem with definition of terms	7
10	Objectives of the study	9
11	Hypothesis	9
12	Scope and limitations of the study	10
13	Research methodology	10
13.1	Population of the study	11
13.2	Construction of the questionnaires	11
13.3	Questionnaire for the librarians	11
13.4	Questionnaire for the users	12
13.5	Design of a draft questionnaire and conducting a pilot study	12
13.6	Preparation of final questionnaire	12
13.7	Sample size	12
13.8	Data Collection:	13
13.9	Analysis of data	13
14	Major findings and observation	14
15	Suggestions	22
15.1	Suggestions to dental college librarians	22
15.2	Suggestions for management	22
16	Conclusion	23
17	Chapterisation	24
	References	25

1. INTRODUCTION

Health practitioners need information management skills to cope with the growing volume of medical knowledge. The ability to quickly access, track, coordinate, critique, and store information is essential for daily decision making related to patient care, education, and research. In addition, changes in the health care systems of industrialized countries have placed new demands on health care services. Delivery of care has become interwoven with adoption of and adoption to computer and information technologies. [1]

Dental hygienists function in a constantly changing information environment and need to keep up to date in the practice of their profession. Not only does information facilitate their ability to make valid decisions and statements about dental hygiene, but information also enables hygienists to provide quality care to their patients. Information is a crucial resource in the operation and management of organizations. Timely availability of relevant information is vital for effective performance of managerial functions such as planning, organizing, leading and controlling. A well established and well designed information system to facilitate users of library is essential to the success of any institute. [2]

User studies are starting to be recognized as an important part of the information package. Information providers like the library need to be aware of their users' information requirements as well as their information seeking and information retrieving methods in order that they might be able to provide better services. A lot of research has been done to find out the information needs and information seeking behavior of various categories of users of information systems.[3]

Various studies have examined the information needs of health professionals, the skills with which those needs are met, and the sources utilized to satisfy those needs. While information needs have changed little over the years, the means of accessing information have changed dramatically. Librarians and users have moved from a reliance on traditional print sources such as Index Medicus, books, and journals, to the use of audiotapes, Videotapes, and computer applications entering an era almost totally reliant on information accessibility via computer databases and online networks.

2. DENTAL EDUCATION IN INDIA

Dental education in India has come a long way from the first dental college, the R. Ahmed Dental College, established by Dr. Rafidin Ahmed in Calcutta in 1928. The college, which initially offered a one-year course and subsequently restructured to four years in 1935, was a pioneering effort towards setting up a dental institution of merit along modern scientific lines.

Dental education received legislative endorsement with the constitution of The Dental Council of India - a statutory body, in April 1949 under an Act of Parliament - the Dentists Act, 1948. In August 1992, amendments were made through an ordinance promulgated by the President of India to include sections 10A, 10B, and 10C to restrict 'mushroom growth' of dental colleges, increase student intake and enable starting of new higher-level courses without the prior permission of the Central Government's Ministry of Health & Family Welfare. Today, there are 283 dental colleges in India, rolling out close to 18,000 dentists annually. Most of these colleges were added in the last decade, showing an exponential growth.[4]

The phenomenal growth of Dental Colleges in India in the past decade has however not let to standard in Dental Education, despite the stringent bench markings given by the Dental Council of India. The physical infrastructure, the buildings, furniture and equipments have not been on par with the minimum requirements. Many of the colleges also do not have regular fully qualified teaching faculty and an adequate up to date library and information centre organized on modern lines. However, there have been good efforts made by the government and the concerned authorities to establish Dental Colleges and provide opportunities for Dental education in the recent times.

3. DENTAL EDUCATION AND SERVICES IN KARNATAKA

The first government dental college was started in Bangalore in 1958 with an intake of 5 students. The first private dental college was started in Manipal in 1965. In the next 30 years, there was a spurt of dental colleges in the private sector. As on there are 43 dental colleges in Karnataka with an intake of 2950 as against an All India intake of 22740 presently about 1200 BDS graduates qualify each year.

Prior to 1996, the dental colleges of Karnataka were affiliated to various different universities in the state. With the establishment of the Rajiv Gandhi University of Health Sciences (RGUHS), all dental colleges except the two at Manipal and Mangalore came under the aegis of RGUHS. One of the objectives was to develop a uniform curriculum, syllabus, training and evaluation of all the dental colleges. Recently many of the colleges, including the Siddharta Dental College, Tumkur, JSS Dental College, Mysore, Yenepoya Dental College and AB Shetty Dental College, Nabgakire have come under deemed university status.[5]

4. DENTAL COLLEGES IN SOUTH KANARA AND UDUPI DISTRICTS

South Kanara presently known as Dakshina Kannada district in Karnataka has become one of the important educational centers in India. This is due to the strong foundation of primary education laid by forefathers of undivided South Kanara district. Mangalore education system has great potential. Being a part of the state of Karnataka, with well developed educational system, this city has a well developed network of schools and colleges. They have been imparting knowledge since the last few decades. Mangalore colleges are known for their quality education. There are a large number of good colleges in Mangalore that have highly proficient faculty members. They help the students in building up a prospective career. The quality of education imparted in theses colleges have not only attracted the students of Mangalore but also from other parts as well.

Most of the colleges of Mangalore are accredited by the University Grants Commission and the State Government. Some of them also operate under the governance of the Mangalore University. These colleges provide their students with all the necessary facilities such as well stocked library, fully equipped laboratories, well maintained playgrounds, activity clubs, etc. to bring about an overall growth and development among its students. Mangalore colleges have also come up with counseling and placement cells. These cells guide the candidates in selecting the right career and help them out in their search for jobs. The scenario of the educational system at Mangalore can be analyzed from its good literacy rate as well as the growing potential in the educational arena. The city has got a large number of schools, colleges, universities and other private institutes. Karnataka has been in the fore front of promoting higher education in general and the professional education in particular.[6]

4.1 Udupi District

Udupi district in the Karnataka state of India was created in August 1997. The three northern taluks, Udupi, Kundapur and Karkal, were separated from Dakshina Kannada District to form Udupi district. Udupi district is surrounded by Uttara Kannada district in north, Dakshina Kannada district in southern direction. Shivamogga district borders on north east side and chikamagalur district on east. Arabian sea is on west of Udupi district. Udupi has a literacy rate of 92%, high compared to other districts of Karnataka. Udupi district is home to internationally renowned educational institutions. Quality professional education offered by two districts of Dakshina Kannada and Udupi has attracted students from all over the country and even from abroad. [7]

According to Government of Karnataka the Dental Colleges in South Kanara and Udupi districts which are included in the present study according to their year of establishment in the chronological order are:

- Manipal College of Dental Surgery (MCODS), Manipal. (1965).
- A.B. Shetty Memorial Institute of Dental Sciences, Deralakatte (1985).
- Manipal College of Dental Sciences (MCODS), Mangalore (1987).
- K.V.G. Dental College & Hospital, Sullia (1991).
- Yenepoya Dental College & Research Institute , Mangalore (1992).
- A.J. Institute Of Dental Sciences, Mangalore (2002).

The Dental college libraries of South Kanara and Udupi districts are the place where students, lecturers and staff members use materials for research and teaching in the dental and oral field. As a special type, a special library being a part of an institution, have the role of providing practical information to the staff and students of such an institution. Usually special libraries must concentrate on particular subject and rely heavily on materials such as reference books, journals and reports.[8]

5. BACKGROUND TO THE STUDY

From our experience of the everyday world, we see that people are in consistent, if not constant interaction with texts of a variety of types, for a variety of purposes. We read newspapers, we watch television, we go to picture galleries, we use libraries, we engage with

advisory services; in order to know about our world, to be entertained, to understand, to learn, to become informed, to do our work, to help us solve our problems. [9] An essential feature of all of these activities is precisely our interaction with these texts. By interaction, we mean that, in such activities, people are not just passive recipients of messages, but rather active seekers of texts, and active constructors of meaning from these texts. They look for texts of potential interest; they make judgments about the usefulness or interest of texts by engaging with them, they interpret texts in order to understand them. Thus, our engagement with texts and our interpretations of them are central to our being able to use them for our goals, whatever they may be.[9]

In the situations which lead to information-seeking behaviors, our interactions with texts often take place within the context of systems, social and technical, which are constructed to support us in accomplishing the goals of the behaviors. Such systems include, for instance, libraries, information centers, advisory services, and Information Retrieval (IR) systems. The study is therefore explicitly concerned with the issue of how to identify PG dentists' information needs and the information sources they use to meet their needs in clinical settings in the colleges under study.[10]

6. CURRENT STATUS OF THE STUDY

More than twenty years ago, in October 1971, the National Library of Medicine pioneered online access to the literature with the introduction of MEDLARS online (MEDLINE) [Peterson, 2007)]. MEDLINE initially consisted of a subset of 236 of the top medical journals indexed in Index Medicus and was viewed as an interesting supplement to manual searching; it now is used routinely as the preferred method of access by thousands of librarians and health care professionals. Today, information seekers may select from hundreds of databases in an ever-increasing variety of formats, adding a complexity to information gathering not foreseen in 1971.

Electronic publications are rapidly replacing printed materials in personal, professional, and educational collections. Libraries have substituted many, if not most, titles in their journal collections with electronic subscriptions, and many books are now available in digital format. With laptops a required tool for many students, electronic books in various formats often replace some or most textbooks required by instructors. For numerous reasons,

including environmental preservation, cost savings, convenience, and flexibility, schools are selecting digital textbooks over printed books.

Considering the rapid changes in information provision in the 21st Century with computerized access, digitized information formats, and the overload of resources on the Internet, the access and retrieval capabilities of users who are traditionally accustomed to manual information library systems is questionable. Atkinson (1997) enumerates these as the circumstances under which it was worthwhile to reexamine issues of user behavior in academic settings. Hence this study seeks to investigate the process Postgraduate student's library use while seeking information.[11]

7. NEED AND SIGNIFICANCE OF THE STUDY

The advent of personal computers and the internet followed by the introduction of online electronic journals and databases at the beginning of the 1990s led to the development of online academic resources and the transformation of the practice of scholarly communication. The ease of access and ease of use provided by electronic resources made it easier for researchers to access and share scientific knowledge. Today, the use of online electronic resources has become widespread in almost all fields of scientific research. Health sciences librarians have been advocating the use of indexes and abstracts for as long as these products have been available.

The study of Information Needs and Information Seeking Behavior of university students especially in developing countries has been a significant and eventful issue from the last few decades. The current domain of information atmosphere is rich, characterized by an explosion of information sources and providers, a multiplicity of methods for accessing information, and a redundancy of content from multiple sources.[12]

The few studies that have been conducted indicate that dental hygienists primarily use continuing education courses to obtain information. There were few studies found on computer applications used by dental hygienists in patient care, education, and research. Hence it would be useful to identify information seeking practices, computer applications used, and the degree of user comfort in this profession. Hence, there is a need felt to conduct a study on information seeking behavior.

8. PURPOSE OF THE STUDY

Dentists, like any other health care providers, need to continuously update their knowledge base to stay competent in their profession and provide high-quality health care for patients. Identification of student's behavior towards seeking knowledge and their needs regarding information is a difficult task. Considering the importance of education and information for quick learning, objective of study is formulated which is to understand the information needs and seeking behavior of PG Dental students in South Kanara and Udupi Districts. The librarians need to manage the important resources and make them accessible to attain cost effectiveness in the university library services and promote the use of library information resources. Thus, the purpose of this study is to identify general dentists' information needs and the information sources they use to meet those needs in clinical settings so as to inform the design of dental information systems and their awareness about resources.

9. STATEMENT OF THE PROBLEM:

The title of the study is "An investigation into the Information needs, Use pattern and Information seeking behavior of PG Dental students in the IT environment: A case study of South Kanara and Udupi Districts."

9.1 Information need

Information need is an individual or group's desire to locate and obtain information to satisfy a conscious or unconscious need. This is understand in information science as stemming from a vague awareness of something missing and as culminating in locating information that contributes to understanding and meaning (Kuhlthau, 1993).[13]

9.2 Information seeking behavior

Information Seeking Behavior is the totality of human behavior in relation to sources and channels of information, including both active and passive information seeking and information use. Thus, it includes face to face communication with others, as well as the passive response of information. Information Seeking Behavior is the purposive seeking for information as a consequence of a need to satisfy some goal. In the course of seeking, the

individual may interact with manual information systems (such as a newspaper or a library), or with computer-based systems (such as the World Wide Web). [14]

9.3 Dentistry

Dentistry is defined as the "evaluation, diagnosis, prevention and/or treatment (non surgical, surgical or related procedures) of diseases, disorders and/or conditions of the oral cavity, maxillofacial area and/or the adjacent and associated structures and their impact on the human body''. Those in the practice of dentistry are known as dentists. Other people aiding in oral health service include dental assistants, dental hygienists, dental technicians, and dental therapists.

A dentist is a healthcare professional qualified to practice dentistry after graduating with a degree of either Doctor of Dental Surgery (DDS), Doctor of Dental Medicine (DMD), Bachelor of Dentistry (BDent), Bachelor of Dental Science (BDSc), or Bachelor of Dental Surgery / Chirurgiae (BDS) or (BChD) or equivalent. In most western countries, to become a qualified dentist one must usually complete at least Four years of postgraduate study. Generally, Two years of clinical experience working with patients in an educational setting are required.

In addition to general dentistry, there are nine recognized dental specialties. To become a specialist requires one to train in a residency or advanced graduate training program. Once residency is completed, the doctor is granted a certificate of specialty training. Many specialty programs have optional or required advanced degrees such as (MD/MBBS specific to Maxillofacial Surgery), MS, or PhD. The specialized fields in Dentistry are: Community Dentistry, Conservative/Endodontics, Oral Surgery, Oral Pathology, Oral Medicine and Radiology, Orthodontics, Prosthodontics, Periodontics and Pedodontics.[15]

9.4 Information Technology (IT)

IT is the acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by a microelectronics based combination of computing and telecommunications and is the area of managing technology and distances, wide variety of areas that include but are not limited to things such as processes, software, information, hardware, programming, and data constructs. In short, anything that renders data, information or perceived knowledge in any visual format whatsoever, via any multimedia distribution mechanism, is considered part of the domain space known as

Information Technology (IT). IT provides businesses with four sets of core services to help execute the business strategy. These four core services are broken into business process automation, providing information, connecting with customers, and productivity tools.[16]

10. OBJECTIVES OF THE STUDY

The present study identified the information needs, information-seeking behaviors, knowledge and skills in information technology and searching, use of information resources of PG Dental Students This study sought to establish ways of improving the information–seeking behavior of Post graduate students and to attain their goal, the study stipulated the following objectives:

1. To find out the information needs of PG Dental students.
2. To determine whether the library serving the dental colleges is able to meet those information needs of PG Dental students.
3. To verify the usage of the dental college libraries by PG dental students.
4. To investigate the information seeking behavior
5. To discover the problems that PG students encounter in information seeking.
6. To suggest strategies for improving their information seeking behavior.

11. HYPOTHESES

The study is predominantly quantitative, with the following hypotheses tested to establish the information "search strategies" and "seeking behavior and problems" that students face.

1) Information seeking behavior varies among students of different age groups, gender and specialization.
2) Information seeking through online searching , use of online databases, and use of e mail as communication media is maximum among the age group of 26-30
3) Information seeking by attending conferences is more among the age group above 30.
4) There is similarity among users of different age groups in selecting different channels for their information need.
5) PG dental students use library to access basically primary sources of information.
6) PG dental students prefer to use online media of Information, than print media for their information need.
7) Majority dental students are computer literates ,hence they prefer to use internet more than the library,
8) PG dental students require information on latest trends and events in the field for their continuing education.

12. SCOPE AND LIMITATIONS OF THE STUDY

The scope of the study is:

- This study aims mainly to determine the information seeking behavior of the PG dental students and how the library meets those information needs.
- The research is based on the literature pertinent to the research which relates to meeting the information seeking behavior of PG dental students at the Dental colleges of South Kanara and Udupi Districts.
- The study looks into the current status of information provision, determine the usage of literature and assess the resources in identifying information and research needs of PG dental students.
- The study is limited to Post Graduate Dental users only.
- The study is limited only to Dental college libraries in South Kanara and Udupi Districts.

13. RESEARCH METHODOLOGY

The survey method was selected for data collection through questionnaire. The survey collected information on PG Student's use of indexes, databases and library resources, methods of obtaining hard copies of articles; frequency of accessing and use of academic libraries at nearby institutions. The researcher designed a questionnaire to determine both the information needs and means of obtaining information among PG Dental students in South Kanara and Udupi districts. In addition to the information-related questions, demographic data on specialties, gender and ages were collected. For the survey, questionnaires of 5 point likert scaling, 5 for very good, 4 for good, 3 for average, 2 for poor and 1 for very poor was developed. Surveys were coded so that data would be available by college. Variables used in this study are – Gender (Male and Female), College, Computer Literacy, ability of the person to identify the need for information, ability to construct strategies for locating information, ability to locate and access the information, ability to compare and evaluate information obtained from different sources, ability to organize, apply and communicate with others, ability to synthesis and create new knowledge.

13.1 Population of the study

The Dental colleges in South Kanara and Udupi districts which are included in the present study according to their year of establishment in the chronological order are:

- Manipal College of Dental Surgery (MCODS), Manipal. (1965).
- A.B. Shetty Memorial Institute of Dental Sciences, Deralakatte (1985) .
- Manipal College of Dental Sciences (MCODS), Mangalore (1987).
- K.V.G. Dental College & Hospital, Sullia (1991).
- Yenepoya Dental College & Research Institute , Mangalore (1992).
- A.J. Institute of Dental Sciences, Mangalore (2002).

All the above colleges of Dental Science offer Post Graduate courses. The total number of PG's are 431in different specializations such as Orthodontics, Oral Surgery, Oral Medicine and Radiology, Oral Pathology, Prosthodontics, Pedodontics, Periodontics , Community Dentistry and Conservative/Endodontics. The population of the study includes all the 431 PG students (100%)

13.2 Construction of the questionnaires

Two types of questionnaires were constructed. Of these two types one was meant for the librarians and the other for the core population of the study i.e., post graduate dental students.

13.3 Questionnaire for the librarians

Questionnaire for the librarians was designed to collect information regarding the libraries, its facilities, infrastructure, resources, services and online resources available. Questionnaire consists of the following five sections with 35 questions.

- Section 1: General information
- Section 2: Infrastructure of the library
- Section 3: Library facilities and services
- Section 4: Library Budget
- Section 5: Library Personnel

13.4. Questionnaire for the users

Questionnaire for the users was designed to collect information regarding their need, purpose, channels and preferred sources for seeking information. Questionnaire consists of the following five sections with 35 questions.

- Section 1: Personal information
- Section 2: Information need
- Section 3: Library visit and its services
- Section 4: Computer and internet use
- Section 5: Barriers and user education.

13.5 Design of a draft questionnaire and conducting a pilot study

To validate the suitability of the questionnaire a pilot study was conducted on the selected samples which are collected randomly among the total population of dental colleges under study. After analyzing the responses uncertainties that originated were removed in order to produce a reliable search instrument. Then questionnaire was finalized.

13.6 Preparation of final questionnaire

Investigator made changes in the already prepared questionnaire. This questionnaire was used as a data collection tool. It covered the information needs, use pattern and information seeking behavior of PG Dental students in the IT environment. Questionnaire was circulated to Post Graduate students in Dentistry of the selected colleges under study.

13.7 Sample size

A required sample size was considered from the population keeping 95% of confidence level. This was determined only after conducting the pilot study. The population survey included all the 431 Post Graduate dental students from all the dental colleges of South Kanara and Udupi Districts which is the total 100% of the Post Graduate Dental students.

The distribution of questionnaires among different colleges is shown in Table 1

Table-1: College wise distribution of responses

S.N	Name of the college	Total Population	Questionnaires distributed	Responses received	Percentage
1	Manipal College of Dental Sciences,(MCODS),Manipal	85	85	79	92.94
2	AB Shetty Institute of Dental Sciences (ABSIDS), Mangalore	90	90	59	65.55
3	Manipal College of Dental Sciences(MCODS), Mangalore	80	80	73	91.25
4	KVG Dental College (KVGDC), Sullia	36	36	36	100
5	Yenepoya Dental College (YDC), Mangalore.	85	85	73	85.88
6	A J Institute of Dental Sciences(AJIDS), Mangalore	55	55	55	100
	TOTAL	**431**	**431**	**375**	**91.2**

13.8 Data Collection:

The PG Dental students were approached to respond all questions to the best of their knowledge with reference to the information needs and information seeking behavior towards studies and the questionnaire was distributed individually to all the PG Dental students accompanied by a cover letter explaining its purpose. They were assured that their anonymity would be maintained and their response was voluntary. 375 questionnaires duly filled were received. This technique was much better but few problems reduced the response rate efficacy e.g. students did not take this matter seriously therefore the data collection was slow. To tackle this challenge, one to one interviewing method was also applied. Students from all the colleges responded. Out of 431 students 375 students responded and the response rate is shown in Table 1. Total response rate is 91.2% which is a good representative of the sample.

13.9 Analysis of data

After the survey the collected data were analyzed by using the software packages like SPSS (version 19) and MS EXCEL. The data analysis was guided by the following questions.

- What were the respondents' main purposes of seeking information?
- What were the respondents' information needs?

- What were the respondents' most preferred information channels and media?
- How frequently they visit the library and their problems for not visiting the library regularly?
- What is their knowledge about computer and internet?
- What are their purpose and the preferred places for accessing the internet?
- To what extent they use online resources?
- What are their main criteria for evaluating information?
- What is their level of satisfaction and the barriers they faced while using the library services?
- How do they rate their library collection, services and staff co operation?
- What is their perception about user education?

Further Chi square test, ANOVA, Factor Analysis and Standard Deviation, Mean and Mode has been used to study association between the different variables – age, gender and specialties of the respondents that influence the information seeking behavior. P value less than 0.05 considered as statistically significant.

14. MAJOR FINDINGS AND OBSERVATION

Based on the responses received from the questionnaires that were distributed to PG dental students at the six Dental Colleges under study the following findings have been be revealed.

14.1 Population of the study

- Out of the total 431(100%) questionnaires distributed, the researcher received back 375(91.2%) questionnaires from the respondents which has been a good response. Among them 182 (48.5%) were male students and 193 (51.5%) were female students and are from nine different specialties of Dentistry such as Community Dentistry, Conservative/Endodontics, Orthodontics, Pedodontics, Oral Surgery, Oral Pathology, Oral Medicine and Radiology, Periodontics and Prosthodontics

- The study revealed that the age group of 26-30 represents the large group with respondents' number 173 (46.1%). In the age group of 20-25, the respondents were 166(44.3%), where as in the age group of 31-35, the respondents were 29(7.7%).

- It was found that there were 29 respondents from Community dentistry(7.7%), 54 from Conservative dentistry(14.4%), 46 from Oral surgery(12.3%), 31 from Oral pathology(8.3%), 32 from Oral medicine(8.5%), 50 from Orthodontics (13.3%), 50 from Periodontics (13.3%),40 from Pedodontics (10.7%) and 43(11.5%) from Prosthodontics.

14.2 Channels for seeking information

- It has been found that greater part of respondents (77.9%) prefer Internet as their main channel of information seeking**.** It was also found that next to internet, library is the main channel (67.5%) for seeking information for PG Dental students. Consult the librarian, attend the conferences, consult colleagues and friends are the other channels used for seeking information.

- It was also noted that respondents from the age group of 26-30 use the internet more (83.8%) when compared to other age groups and is proved to be statistically significant.
- Information seeking by attending conferences (50%) and by consulting the librarian (19.4%) is more among the age group above 30, when compared with other age groups and is statistically proved.

14.3 Purpose of library use

- It has been revealed that their main reason to use the library is to read books (77.9%) and then the journals (68.8%). Although their main channel for seeking information is Internet, their next channel for seeking information is library and they use library mainly to read books and journals. The other reasons for using the library are –to issue and return library materials, to use computer, to photocopy materials, to read news papers, to meet colleagues, to read personal books and to give their request for inter library loan of materials.
- It is interesting to note that respondents who visit the library to use the computer are less (28.5%).

14.4 Frequency of library visit

It is discovered that most of the respondents (41.3%) visit the library once in 2-3 days and majority of them (66.1%) spend 2-3 hours/day in library.

14.5 Purpose of Information seeking

It is interesting to note that students seek information for updating their knowledge (75.7%) in addition for exam purpose (56%). The other reasons for using library materials are -for their research work and for paper presentation.

14.6 Preference for reference media

It has been revealed that most of the respondents (49.1%) would prefer to use online books/journals. Still 43.7% users prefer print books/journals and few of them (7.2%) would like to use both medias for their reference works.

- It was established that online books and journals are much used by the users of age group 26-30 (51.4%), print books and journals are more used by respondents among the age group of 20-25 (47.6%) and both by the age group of 26-30 (6.9%). Preference of media is independent of age and is shown in chi square test.
- There is no significant difference among respondents from various departments and gender in selecting information media .

14.7 Reference media used in the library

It is prominent that even in this electronic era students get information through print resources in the library (66.9%). They also get information through online media (42.7%) and very few respondents (4.5%) consult the reference librarian for their reference services and get information either through print or online resources referred by the librarian.

14.8 Continuing educational information needs

It is noteworthy that latest trends & events in the field of dentistry are the main continuing education needs of respondents (75.5%). The other continuing education information needs are disease diagnosis (48.5%), surgical techniques (33.9%), new drugs (33.1%) and critical care (29.1%).

14.9 Computer & Internet knowledge

- It is worth mentioning that more than 70% respondents from all the departments are computer literates and more than 90% of them use the internet. It is also noted that

knowledge of computer and use of internet is slightly more among male respondents (80.8%) when compared with female respondents (78.2%).

- It was also noted that respondents of age group of 26-30 are much familiar (83.8%) with the use of computer and internet when compared with other age groups. Whereas 77.7% of respondents of the age group 20-25 and 66.7% of respondents of the age group above 30 have the knowledge of computer and internet. The difference in percentage is found to be statistically significant

14.10 Purpose of internet use

It was found that majority of respondents use the internet for communication (88.8%) and education (81.6%). The other reasons for using the internet are –entertainment, news, research and sports.

14.11 Internet accessing places.

It is observed that maximum number of respondents get access to internet from their home and hostel (64.3%). The other places for accessing the internet are library (51.6%), department /hospital (15.3%) and internet café (15.9%).

14.12 Search Engines used

It has been established that Google is the main search engine that the respondents (94.8%) prefer to use. They also use Yahoo, Pub med, Lycos and Alta Vista for their reference works.

14.13 Use of online databases

- Majority of respondents (70.7%) use online databases.

- It was exposed that majority of respondents search the online databases themselves and very few (6.8%) of them get help from others.

- Male respondents would like to use online data bases more (75.3%) when compared with female respondents (66.3%). Respondents from the age group 26-30 use more (74%) online databases when compared to other age groups. As such there is not much difference among male and female respondents and of different age groups in searching

online data base; the difference factor is tested and found to be statistically not significant.

- It was recognized that maximum number of respondents (93.2%) searches the online databases independently.

- Respondents of the age group 26-30 (71.7%) search the online data bases independently when compared with other age groups. It is also noted that male respondents use the online databases independently to a large extent (70.9%) when compared with female respondents (64.2%). The difference among variables in percentage is not statistically significant.

14.14. Use of e-mail for communication

- Significant number of respondents (88.8%) use e-mail for communication.
- It was revealed that female respondents use the e-mail more (91.7%) when compared with male respondents (85.7%).
- It is apparent that respondents of above the age group of 26 use e mail more (90.8%) when compared with the age group of 20-25 (88%) and above 30 (83.3%).
- It was noted that more than 80% of the respondents from various departments use email for communication. Still respondents from Community Dentistry (93.1%) and Orthodontics (98%) departments use email more when compared with other departments. The difference among variables have been tested and found to be statistically insignificant.

14.141. Frequency of e-mail use

- It is shown that maximum number of respondents (63.4%) uses email frequently. Still 30.3% of them use sometimes and very few respondents (6.3%) use rarely.

- It was interesting to note that users above the age group of 26-30(66.2%) and above 30 (66.7%) use e mail more frequently when compared with the age group of 20-25(59.6%) This difference in percentage is proved to be statistically highly significant.

- It was noted that female respondents are in higher percentage (66.1%) when compared with male respondents (60.3%) in the frequency of using the e mail for communication. The difference in percentage is not statistically significant.

- It was eminent that respondents from the department of Orthodontics more frequently use email (80%) for communication as compared with other departments. Further nearly 60% of respondents from all the departments use e mail frequently. The difference in percentage is not statistically significant

14.15 Criteria for evaluating information

It has been recognized that while evaluating information respondents give more importance to accuracy (78.7%) and easy accessibility (77.1%). The other factors for evaluation are relevance and comprehensiveness (34.7%), reputation of source (30.7%), timeliness (21.4%) and the price (12.3%).

14.16 Effectiveness of library services

- It was found that all the libraries under study are average in providing print books and journals (44.8%), e-resources (48%), and in providing services like current awareness service (50.9%), Inter Library Loan Service (62.9%) .

- It is revealed that maximum respondents (65.6%) opined that they could get the material they need. Still 34.4% of respondents complained that they are not able to find the material they want.

14.17 Problems faced while seeking information in the library

It is evident that the two main problems they faced while seeking information materials are – non availability of materials (42.1%) and incomplete information in the materials they selected (31.7%). The other problems which hinder the use of library are –lack of time, lack of awareness in using library materials and library catalogue and also scattering of information in many information resources which is difficult to search and also non availability of current information in the library.

14.18. Overall rating of library collection and staff

Maximum number of respondents (43.6%) opined that the collection of print and online books and journals as average in their library and very few respondents (2.4%) opined that the collection is very poor

- The majority of respondents (64.8%) certified that their library staffs are helpful. Very few users (4.3%) remarked that they are not at all helpful, 17.3% of them opined that they are sometimes helpful.

14.19 User education/orientation programme

It was found that more than 60% of respondents not received any user education or orientation programme in using their library resources and facilities. Majority of them (88.8%) who received it opined that it is useful and very few of them (11.2%) said it is not useful for them.

14.20 Findings in relation to hypothesis

The entire hypotheses formulated in the present study are tested and results are shown here below:

- From the study it is found that information seeking behavior, channels of information, preference of reference media, varies among students of different genders and age groups. Hence the hypothesis Information seeking behavior varies among student groups (1) is proved.

- It is significant that use of online databases, internet and e mail for communication is more among male respondents of the age group 26-30. Hence the hypothesis (2) Information seeking through online searching , use of online databases, and use of e mail as communication media is maximum among the age group of 26-30 is established to be correct.

- It is important to note that respondents above the age group of 30 would attend the conferences more for their information needs when compared to other age groups and is proved as statistically significant. Hence the hypothesis (3) Information seeking by

attending conferences is more among the age group above 30 has been proved to be acceptable.

- It was also noted that respondents from the age group of 26-30 use the internet more when compared to other age groups and information seeking by attending conferences and by consulting the librarian is more among the age group above 30 when compared to other age groups. It is also observed that browsing the library and consulting friends and teachers for information is more among the age group of 21-25 when compared with other age groups. Hence the hypothesis (4) there is similarity among users of different age groups in selecting different channels for their information need is rejected.

- It has been discovered that their main reason to use the library is to read books and also the journals. Hence the hypothesis (5) PG dental students use library to access basically primary sources of information found to be partially true.

- It has been revealed that most of the respondents would prefer to use online books/journals over print books and journals. Hence the hypothesis (6) PG Dental students prefer to use online media of Information, than print media for their information need is proved to be acceptable.

- It has been found that greater part of respondents prefer internet as their main channel of information seeking. since by this method users can get advanced, updated information related to their field of interest very speedily. The Internet provides universal access to information that is being exploited by the dental profession. Hence the hypothesis (7) Dental students prefer to use internet more than the library is found to be factual.

- It is revealed that latest trends & events in the field of dentistry are the main continuing education needs of respondents'. Hence the hypothesis (8) PG dental students require information on latest trends and events in the field for their continuing education is accepted.

15. SUGGESTIONS AND CONCLUSIONS

According to the responses received and proposals by Dental students about their Library services the suggestions that can be given are;

15.1 Suggestions to Dental college librarians

- Deliver current information through print/online book and journals and give equal importance to print and online resources
- Use Information Communication Technology (ICT) in libraries
- Conduct training program for library staff
- Systematically arrange and display library resources for easy access
- Conduct information literacy program to users
- Perform marketing of library resources
- Add content to library catalogs (OPACs)
- Give encouragement to maximize the library use via the departmental journal club
- Conduct Library book exhibition
- Provide access to library resources through department libraries
- Implement valuable library services such as Current Awareness Service, ILL Service, Computerized reference services, etc.
- Provide user education and training programs
- Make the working hours of the library convenient
- Evaluate existing library services and implementation of new services according to user need
    - Carry out user surveys regularly
    - Re-evaluate the current library user and their information needs
    - Involve User's participation in decision making about library services

15.2 Suggestions for the management

The suggestions that can be given to dental college management include:

- Provide high-class Internet section with latest version of computers and software to the library.
- Boost E resources subscription through separate budget allocation for e resources.

- Give importance to the location of library and redefine the library's physical space
- Carry out expansion of library
- Provide Wi Fi connection to the users' laptops and desktops inside the campus

16. CONCLUSION

The main objective of this study was to determine information needs and information seeking behavior of PG Dental students in the IT environment. The results of this survey suggest there are differences in information-seeking and computer application practices among Dentists. Information seeking is motivated by a wide variety of needs, including personal, professional, entertainment, etc. In summary, practicing dentists feel strongly the need to keep up with new techniques for patient care; they seek other types of information less frequently. Innovation is an important factor. These needs seem to be met best by professional colleagues, personal book and journal collections. PG Dental students use the library mainly to read books and journals due to lack of availability of sufficient e resources in their libraries. Lack of sufficient number of computer with internet connectivity is one of the main barriers for them to use the library regularly.

PG dental students are more concerned about the accuracy and easy accessibility of information they get while searching for information. Due to their complaints such as non availability and completeness of information they judged the collection of book and journals both print and online and services such as current awareness service, ILL service, reference service as average. Since the awareness of library resources, their usage and easy accessibility is the main problem. Hence, user orientation program to educate them towards the library resources is of primary importance.

The findings of this study indicate that information seeking may be motivated by a wide variety of needs, including personal and professional needs. The successful operation of a library depends to a large extent on the choice of library collections. The collection should meet the needs and requirements of users. Consequently, librarians must be aware of how faculty seeks information. Knowledge of user information needs and information-seeking behavior is imperative for developing valuable collections, and improving facilities and services.

17. CHAPTERIZATION

The results of the study is provided in the form of report consisting of six chapters

- **Chapter 1** –**Introduction** being introductory introduces the research theme and explains its need and significance. It states the research problem and defines the important concepts relating to present research and lists objectives and hypothesis of the study. Further it discusses the methodology adopted for the data collection, analysis and scope and limitations of the study. A brief summary of remaining chapters is also provided in this chapter.

- **Chapter II - Review of literature** attempts to present the review of the literature about studies by using different sources of information regarding information need and seeking patterns of users. This is the product and literature search carried by the researcher from the beginning stage of the research till the completion of research work. The literature review has been divided into various sub sections to cover different aspects of information seeking behavior of the users and related issues.

- **Chapter III - Profile of Dental college libraries** gives physiological and demographical features of the Dental Colleges of South kanara and Udupi districts in which a brief description of the institutional background, growth, need of the Dental education has been given.

- **Chapter IV - Data analysis** is the core of the research. Here an attempt has been made to present the primary data about information need and seeking pattern of Dental College library users of the institutions. The data collected has been structured, analyzed and presented with interpretations in the light of the objectives of the study.

- **Chapter V - Research Findings** that is it provides an opinion survey of the user's information needs, use pattern and information seeking behavior and services provided by the library etc. in the light of the data analysis.

- **Chapter VI- Suggestions and conclusion** on the basis of data analysis and research findings, recommendations and a final conclusion have been drawn. Further attempts have been made to suggest research problems relating to this area for future research.

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